

Two New Species of *Epyris* (Insecta, Hymenoptera, Bethyidae) from Sulawesi Island of Indonesia

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Abstract Two new species of the bethylid wasp genus *Epyris* WESTWOOD, 1832 are described from Sulawesi island, Indonesia: *Epyris tsunekii* sp. nov. and *E. tanoi* sp. nov.

Three species of the bethylid wasp genus *Epyris* have been known to occur in Indonesia (KROMBEIN, 1992; TERAYAMA, 1993). Through the courtesy of Mr. Tadashi TANO, I examined 2 species of this genus collected in Indonesia. After a careful examination, I have concluded that those are new to science, and will describe herein.

The terms used in this paper follow those in TERAYAMA (2006). The following abbreviations are also used: HL–head length; HW–head width; WF–width of frons; LM–length of mesosoma; LP–length of propodeum in dorsal view; LPD–length of propodeal disc in dorsal view; WPD–width of propodeal disc in dorsal view; FWL–forewing length; TL–total body length; EL–eye length; POL–distance between posterior ocelli; AOL–distance between posterior ocellus and anterior ocellus; OOL–distance from a posterior ocellus to nearest eye margin; WOT–distance across and including posterior ocelli; DAO–diameter of anterior ocellus.

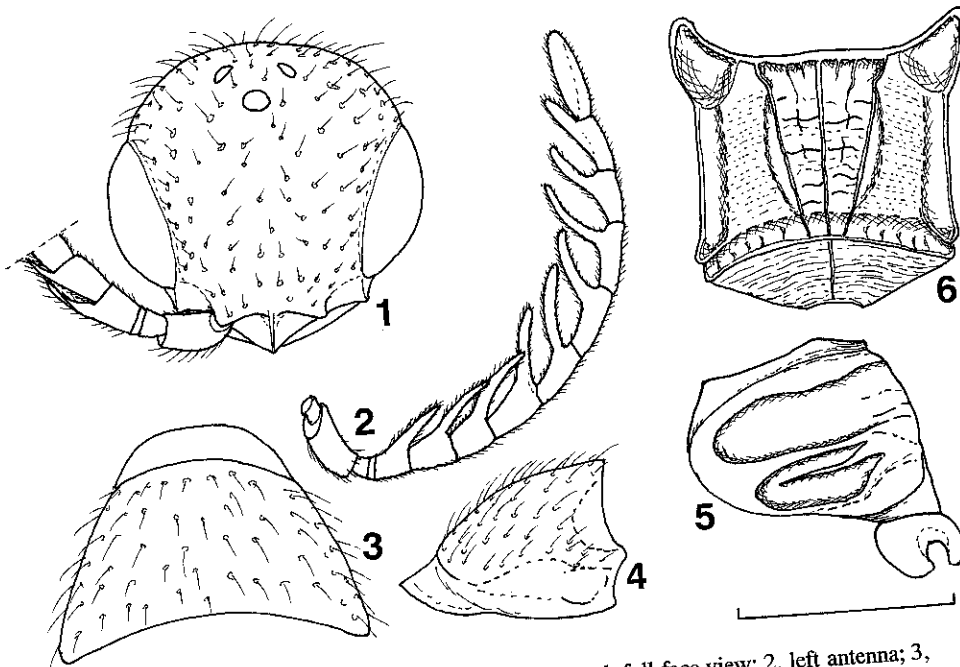
Epyris tsunekii sp. nov.

(Figs. 1–6, 15)

Diagnosis. This species belongs to the *staphylinoides* species-group (sensu KROMBEIN, 1992) in having the ramose male antennal funicular segments excepting the ring-shaped 1st segment. It is easily separated from the other species in this species-group by the long antennal rami, single toothed mandible and 3 discal carinae on the dorsum of propodeum.

Description. Holotype male. Head as long as wide, with convex posterior margin in full-face view; posterolateral corner not angulate; frons and vertex largely smooth, and scattered with small shallow punctures. Mandible with an apical tooth alone. Anterior margin of clypeus weakly produced medially, with an acute median projection. Antenna ramose; first 5 segments in a ration of about 7 : 1.5 : 1 : 4 : 5 in length; scape 1.84 times as long as wide, pedicel short and trapezoidal, 0.50 times as long as maximum width; 3rd segment very short, ring like, and 0.25 times as long as wide; 4th segment as long as wide, ramus long, 1.54 times as long as length of segment; 5th to 10th segments each longer than wide, rami 1.28–1.53 times as long as length of segment; ramus of 11th segment as long as length of segment; ramus of 12th segment short, 0.62 times as long as length of segment; 13th (terminal) segment flat, 1.28 times as long as wide, without ramus. Eye hairless, WF 1.20 times EL. Front angle of ocellar triangle more than a right angle; POL : AOL = 14 : 9; OOL 1.43 times WOT; frontal ocellus 0.09 mm in diameter.

Pronotal disc wide, 0.51 times as long as wide, with convex anterior margin; anterolateral corner round, not forming a distinct angle in dorsal view; disc microreticulate with small and shallow punctures sparsely; dorsal margin weakly convex in lateral view. Mesonotum produced to the level of propodeal disc in lateral view; mesoscutum microreticulate; notauli thick, ca. 0.09 mm in maximum width; scutellum microreticulate; scutellar pits large, circular, ca. 0.13 mm in diameter, and separated by 1.2 times by their diameters. Mesopleurum smooth and shining, with 2 foveae; upper fovea large and wide, and lower fovea slender and U-shaped.



Figs. 1-6. *Epyris tsunekii* sp. nov., male. — 1, Head, full-face view; 2, left antenna; 3, pronotum, dorsal view; 4, ditto, lateral view; 5, left mesopleuron; 6, propodeum, dorsal view. Scale bar: 1.0 mm.

Dorsal face of propodeum wider than long, with weakly concave posterior margin and parallel sides, with 3 carinae; median carina strong, outer carinae converging posteriorly and reaching transverse carina; basal area with several transverse rugae and their interspaces smooth and shining; 2 pairs of short longitudinal carinae present at anterior portion of basal area; sublateral area with numerous weak transverse rugulae; lateral surface of propodeum with 7 strong longitudinal rugae and smooth and shining interspaces; posterior surface with a median longitudinal carina and about 15 transverse rugulae.

Metasoma smooth and shining.

Forewing with a very short postmarginal vein; pterostigma relatively large, 0.20 mm in length and 2.17 times as long as wide; radial vein 2.50 times the length of pterostigma.

Measurements (mm). HL 1.43, HW 1.40, WF 0.85, EL 0.68, LM 2.85, LPD 0.70, WPD 0.73, FWL 4.1, TL 6.1.

Color. Head including clypeus black; mandible reddish brown; antennal scape brown, 2nd to terminal segment of antenna reddish brown. Meso- and metasoma black excepting reddish brown terga. Wings subhyaline tinged with yellowish brown; pterostigma brown; wing veins yellowish brown. Fore leg brown excepting yellowish brown tarsi; coxae, trochanters and femora of middle and hind legs brown; tibiae and tarsi yellowish brown.

Holotype. Male, Ujunglemuru (575 m alt.), South Sulawesi, Indonesia, 30. VI. 2005, T. TANO leg.

Type depository. National Institute of Agro-Environmental Sciences, Tsukuba (NIAES).

Etymology. This species is named in memory of the late Dr. Katsuji TSUNEKI, who

was a leading Aculeate taxonomist.

Remarks. The *staphylinoides* species-group in the genus *Epyris* comprises 15 species, and is distributed in Ethiopian (2 spp.), Oriental (11 spp.), Australian (1 sp.), and Palaearctic (1 sp.) regions (KROMBEIN, 1992; TERAYAMA, 2005). Some of these species were described in the genus *Calyzoa*, *Calyzella*, *Paracalyzoa* or *Pseudocalyzoa*, but these genera were synonymized with the genus *Epyris* by KROMBEIN (1992). This species is easily separated from other species in the species group as mentioned in the diagnosis.

Among the 11 Oriental species, 3 species have been known from Indonesia; 2 from Sumatra and 1 from Borneo. *E. tsunekii* most resembles *E. hirtipennis* (Cameron, 1909) from Borneo and *E. sumatranus* (Enderlein, 1917) from Sumatra in the presence of 3 longitudinal carinae on the propodeal disc and the long antennal rami. However, it is separated from the latter two by the single toothed mandible in male (3-toothed in *E. hirtipennis* and *E. sumatranus*). It is distinguished from the other Sumatran species *E. sumatrensis* KROMBEIN, 1992 (= *E. flavipennis* (Enderlein, 1920)) by the long antennal rami.

***Epyris tanoi* sp. nov.**
(Figs. 7–14, 16)

Diagnosis. This species is in the female easily separated from the other congeners by the characteristic shape of metasoma: 1) metasoma very slender, 2.91 times as long as wide in dorsal view; 2) metasomal segments 6 + 7 strongly depressed dorsoventrally, 0.18 mm in high, 4.29 times as long as high, with convex dorsal and concave ventral margins in lateral view; 3) 6th tergum long, 1.14 times as long as wide, posteriorly strongly narrowed; 4) 3rd to 5th sternites each with a large apical lobe; 5) 6th sternite short, covered by the apical lobe of 5th sternite; 6) 7th sternite large, longer than wide, apically strongly narrowed.

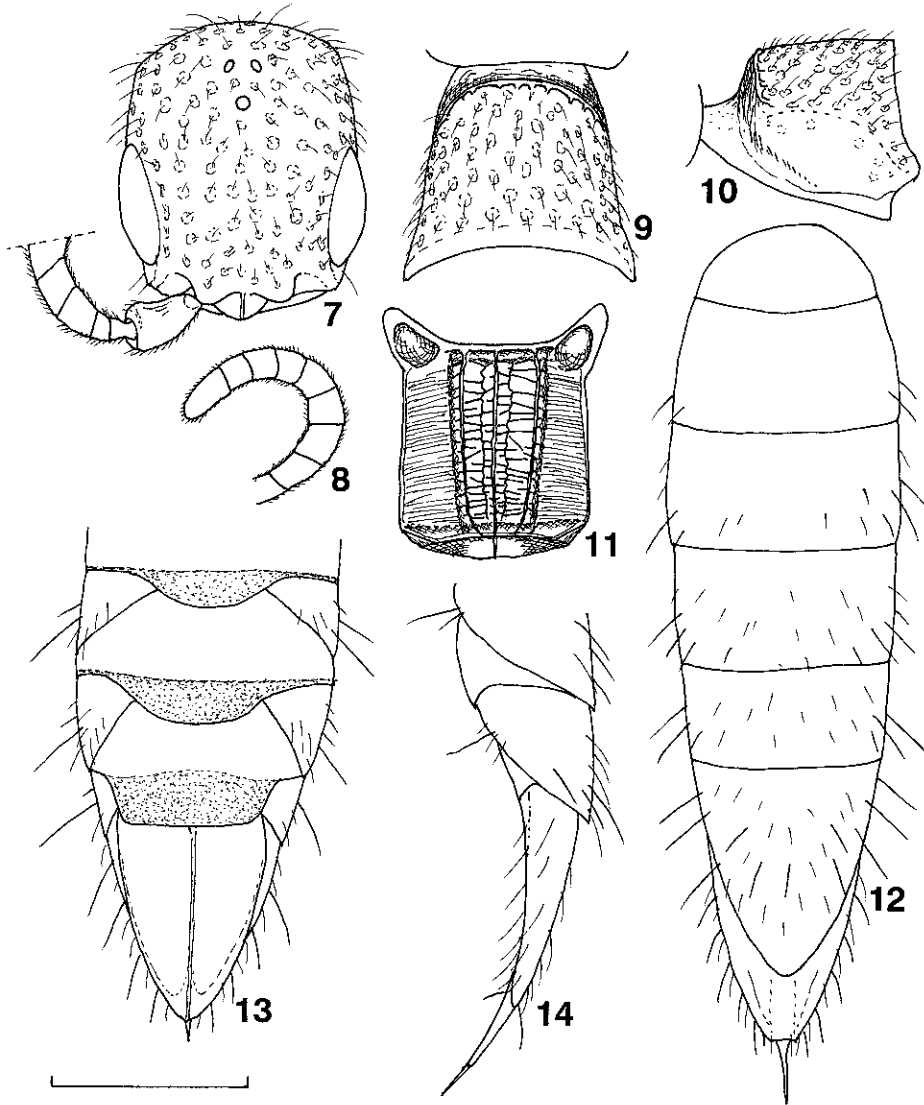
Description. Holotype female. Head long, 1.19 times as long as wide, with convex posterior margin and dully angulate posterolateral corners in full-face view; frons and vertex moderately punctate; punctures oval, ca. 0.05–0.06 mm in maximum diameter. Mandible microreticulate, with 4 strong teeth. Anterior margin of clypeus convex. Antenna short, not reaching the level of posterior margin of pronotum; first 5 segments in a ration of about 21 : 5 : 5 : 7 : 7 in length; scape 2.33 times as long as wide; pedicel as long as wide; 3rd segment 0.84 times as long as wide; 4th and 5th each 0.88 times as long as wide; terminal segment twice as long as wide. Eye without hair, WF 1.19 times EL. Front angle of ocellar triangle less than a right angle; POL : AOL = 5 : 6; OOL 2.3 times WOT; anterior ocellus 0.10 mm in diameter.

Pronotum moderately punctate, with smooth interspaces; shape of punctures as in those on head; disc 0.68 times as long as wide, with convex anterior margin in dorsal view; anterior margin carinate; anterodorsal corner forming a right angle in lateral view. Mesoscutum and scutellum weakly microreticulate and with punctures sparsely; notauli narrow; scutellar pits oval, 0.10 mm in maximum diameter, and separated by 2.25 times their diameter. Mesopleurum with 2 foveae; upper fovea narrow and long; lower one large and subtriangular.

Propodeum longer than wide, with almost straight posterior margin and parallel sides in dorsal view; 5 discal carinae present, outer sublateral carinae reaching transverse carina, inner pairs not reaching to the transverse carina; median area with transverse rugae between carinae; lateral area with many weak transverse rugulae; lateral surface of propodeum with many longitudinal striae, with smooth and shining interspaces; posterior surface weakly microreticulate, with a median longitudinal carina.

Metasoma very slender, 3.90 mm long, 1.31 mm in maximum width in dorsal view;

terga largely smooth, with fine punctures sparsely; 1st to 5th terga each wider than long in dorsal view; 6th tergum longer, 1.14 times as long as wide, strongly narrowed posteriorly; 7th tergum also strongly narrowed posteriorly; 3rd to 5th sternites each with a large, very thin apical lobe; 6th sternite short, covered by the apical lobe of 5th sternite; 7th sternite longer than wide, forming an acute triangle, gradually narrowed posteriorly; surface microreticulate, with a complete median carina; in profile metasomal segments 6 + 7 strongly depressed dorsoventrally, 0.18 mm in high, 4.29 times as long as high, with convex dorsal and concave ventral margins.



Figs. 7-14. *Epyris tanoi* sp. nov., female. — 7, Head, full-face view; 8, antennal segments 5-12; 9, pronotum, dorsal view; 10, *ditto*, lateral view; 11, propodeum, dorsal view; 12, metasoma, dorsal view; 13, metasomal sternites 3-7, ventral view; 14, metasomal sternites 5-7, lateral view. Scale bar: 1.0 mm.



Figs. 15–16. New Indonesian *Epyris*, habitus. — 15, *Epyris tsunekii* sp. nov., male;
16, *Epyris tanoi* sp. nov., female.

Forewing without postmarginal vein; pterostigma relatively large, 0.18 mm long, 1.75 times as long as wide; radial vein 4.0 times length of pterostigma.

Measurements (mm). HL 1.56, HW 1.31, WF 0.81, EL 0.68, LM 3.05, LPD 1.05, WPD 0.95, FWL 4.6, TL 7.7.

Color. Head including clypeus black; mandible reddish brown; antenna reddish brown excepting basal 2/3 of scape blackish brown. Meso- and metasoma black. Tegula reddish brown. Forewing subhyaline, tinged with yellowish brown; pterostigma and veins yellowish brown. Coxa and femora black; trochanters, tibiae and tarsi reddish brown.

Holotype. Female, Batutumonga (1300 m alt.), South Sulawesi, Indonesia, 28. VI. 2005, T. TANO leg.

Type depository. National Institute of Agro-Environmental Sciences, Tsukuba (NIAES).

Etymology. This species is named after the collector of this species, a famous Japanese wasp researcher, Mr. T. TANO.

Remarks. *Epyris nantoensis* TERAYAMA, 2005, from Taiwan has also an elongate metasoma in Asia. However, *E. tanoi* is easily separated from *E. nantoensis* by the strongly depressed 6th and 7th metasomal segments, 3rd to 5th sternites each with a large apical plate, and carinate anterior margin of pronotum. *E. tanoi* is also similar to the species of the *depressigaster* species-group by EVANS (1969, 1978), distributed from South America to southeastern part of North America. It is separated from the *depressigaster* species-group by the 4-toothed mandibles (bidentate in the latter), hairless eyes (eyes with hairs in the latter), and carinate pronotal disc (carina absent on pronotum in the latter).

Acknowledgments

I express my cordial thanks to Dr. Seiki YAMANE (Kagoshima University) for critical reading the manuscript and to Mr. Tadashi TANO (Fukui Pref.) for the gift of the material.

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[Received April 23, 2008; accepted October 8, 2008]